Changing Landscapes 2: Anticipating the Effects of Local Land Use Decisions
Decision Support Tool Summary
What if?
Digital Watershed
Assessing the Impacts of Development

What if?

What if? is an easy-to-use, GIS-based system that can be used to explore alternative community development scenarios and project future land use patterns and associated population, housing, and employment trends.

The program allows public officials and private citizens to examine the likely impacts of alternative policies for controlling urban growth, preserving agricultural land, or expanding public infrastructure in easy-to-understand maps and tables.

What if? is designed to be used by non-technical people in public forums, allowing communities to use currently available GIS information to support community-based dialogue and collaborative decision-making.

Digital Watershed

Since the watershed is considered to be the basic unit for the environment, Michigan State University's Institute of Water Research has developed an online digital watershed website as a starting point. The digital watershed website is designed to provide both a centralized information repository and an online computing center for watersheds in the United States. This site is based on the comprehensive database of 8-digit watersheds for the whole continent of the United States, which is included in the EPA BASINS system. The database contains all regulated facilities, river network, DEM, state soil and other data layers. The digital watershed site is interconnected with Michigan's local level watershed information system by the scaling function.

With the advances in distributed computing technologies, online real time or quasi-real time environmental modeling has become a possibility. The Institute of Water Research believes that the online environmental modeling will become an essential part of our national environmental computing infrastructure. In Digital Watershed, an online erosion and deposition modeling function was developed as a demo for online environmental modeling to show the concept.

The Institute of Water Research is building an environmental software system using the distributed computing technologies to build our collective abilities. To create a system to record patterns at different scales and understand different processes that shape these patterns is no easy task but it can be done if we aim high and act incrementally. This software will continue to grow as new knowledge of our planet, in the form of databases and models, can be integrated into the system. It is the hope of the Institute that this system will become part of the national environmental computing infrastructure and will also be able to answer questions about the environment based on information entered.

Assessing the Impacts of Development (ATIOD)

Assessing the Impact of Development (ATIOD) is a self-sustaining educational software program. The program is composed of four separate components.

First, a Flash Animation program allows the user to review the rationale and methods of economic and fiscal impact assessment. Second, a graphics program allows the user to build a historical profile of the target community. Third, an interactive program allows the user to conduct a series of economic impact "what if" scenarios. Fourth, an interactive program allows the user to assess in detail the fiscal impact of a proposed scenario.

References:

1. What if?: www.what-if-pss.com
2. Digital Watershed: www.iwr.msu.edu/dw
3. Assessing the Impacts of Development: Steve Deller (608) 263-6251 deller@aae.wisc.edu